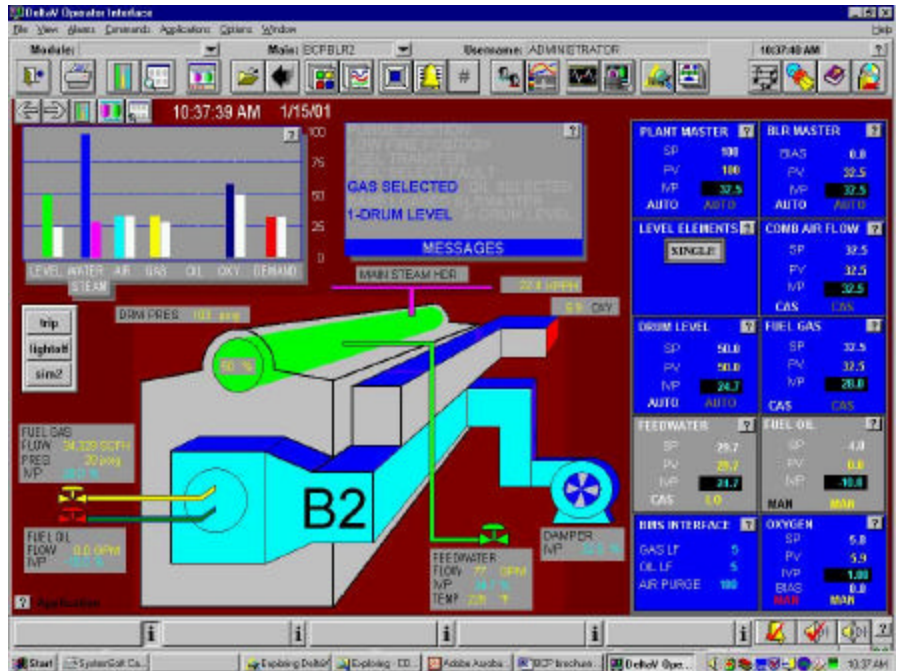


# Boiler Control Package

January 2003

## — A better way to cut energy costs with boilers

- Increase reliability and operator confidence
- Save fuel and reduce upsets
- Standardized, field-proven controls reduce errors and increase productivity
- Operate closer to design capabilities
- Reduces startup and engineering costs



*Reliable, efficient boiler control is essential for smoother plant operations. But keeping a complex steam production process in balance poses a constant challenge: Steam loads change as production demands fluctuate. Fuel variations add to changing complexity. And unforeseen equipment malfunctions can result in costly process upsets.*

Example of operator interface using the DeltaV™ Scalable Process System.

**How can your boilers become a key part of your plant strategy to reduce upsets and minimize cost? And will your control system be easy to update and maintain?**

Our answer is the Boiler Control Package (BCP), a software solution for controlling gas or oil-fired boilers. The package provides controls for managing combustion, feedwater and drum level, stack oxygen, and steam header pressure. Precise, automatic control helps you maintain steam pressure which enhances plant efficiency.

**What is the Boiler Control Package?**

This package provides pre-engineered controls for gas or oil-fired boilers for DeltaV™ systems.

**BCP includes:**

- steam header pressure loop
- boilermaster for loading individual boilers
- 3-element drum level loop
- parallel metering with cross-limits
- rate limited combustion
- O2 trim
- burner management interface
- simulation for testing
- fuel, water & steam totals

**Fisher-Rosemount Systems**

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## **BCP includes:**

- information on design, operation, startup, and tuning
- electronic documentation
- licensed for each boiler

## **How can boiler controls improve our process?**

Improvements are often needed to reduce cost of fuel, stabilize upsets in operation, or to comply with regulations. This package helps boilers perform more closely to design specifications and demand requirements, time after time.

## **How is engineering cost reduced?**

Because it's pre-configured and well documented, you'll spend a lot less time configuring the controls. This allows more time for implementing the system and other important activities. We've proven this on more than 100 boilers.

## **How flexible can control be?**

Flexibility is included to ensure that your control strategy fits process requirements. Options include: an interface to burner management systems, furnace draft control, speed driven fans, and simulation. We've customized it for use with hydrogen and waste fuels, solid fuels, and to be a furnace or thermal oxidizer.

## **How does it save fuel?**

The simple answer is by being efficient all the time. For

boilers with mechanical jackshaft controls - fixing the amount of air consumed with fuel wastes fuel because conditions are constantly changing. As fuel heating value changes, fuel and air can be properly apportioned which saves fuel. For each 2% reduction in stack oxygen, you save 1% fuel. On a 100 Kpph steam rated boiler at \$4/therm, \$42K per year could be saved with natural gas.

## **How will it reduce upsets?**

Adding intelligent controls will help the boiler operate at optimum conditions. For example, when an analog input goes bad, the loop will go to manual mode and alarm the operator. Also, tuning of header pressure and drum level loops adapt for changing conditions.

## **Can it support information needs?**

Changes in operation and alarms are automatically logged. Data is available real time for other applications using integration technologies to support accounting and compliance requirements.

## **What's the operator interface?**

Included are graphic displays for steam header overview, a detailed boiler display (with trends, annunciator panel, and controls for operating the unit in a clear and logical way), and a simulator display.

## **What about support?**

Few operations have resources or expertise to design, implement, startup, tune and maintain a complex boiler system on their own. Our support includes the support of an expert with boiler control to help with the project or guide what needs to be done. As an organization, we offer global support and service with offices in almost every country.

## **Who do I contact for information?**

We welcome the opportunity to answer your burning questions about boiler control. Call our representative or sales office today for more information

[rhayes@frco.com](mailto:rhayes@frco.com)

Or visit our website at

[www.EasyDeltaV.com](http://www.EasyDeltaV.com)

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